

Clean Copy of Claims

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10. A composition for the recovery of DNA comprising a mixture of combined reagents, one of which lyses and one of which precipitates DNA to clarify a cell mass.

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19. A biotech kit comprising compaction agent and other reagents and apparatus designed for the purification of nucleic acids from lysates or synthetic mixtures containing PCR products, oligonucleotides, and other nucleic acids resulting from synthetic syntheses.

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20. A kit according to Claim 19 comprising apparatus for application of the method in parallel mini-prep procedures for a plurality of cell masses.

21. A purification kit for plasmid DNA according to Claim 19 comprised of lysis solutions, a resuspension solution, a compaction agent-based precipitation solution, a stripping solution and optionally a final resuspension solution.

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22. A purification kit for total RNA according to Claim 19 comprised of a lysis solution; a 1st compaction precipitation solution (which may be optionally combine with the lysis solution); a 2nd compaction precipitation solution; a stripping solution; and optionally a final resuspension solution.

23. A purification kit for chromosomal or genomic DNA according to Claim 19 comprised of a lysis solution or solutions, a resuspension solution, a compaction agent-based precipitation solution, a stripping solution, and optionally a final resuspension solution.

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24. A purification kit for large RNA fragments according to Claim 19 comprised of a lysis solution; a 1st compaction precipitation solution (which may be optionally combine with the lysis solution); a 2nd compaction precipitation solution; a stripping solution; and optionally a final resuspension solution.

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25. A purification kit for low molecular weight RNA fragments according to Claim 19 comprised of a lysis solution; a 1st compaction precipitation solution (which may be optionally combine with the lysis solution); a 2nd compaction precipitation solution; a 3rd compaction precipitation solution; a stripping solution; and optionally a final resuspension solution.

26. A large-scale plasmid DNA purification kit according to Claim 19 comprised of lysis solutions, a resuspension solution, a compaction agent-based precipitation solution, a stripping solution and optionally a final resuspension solution.

27. A large-scale filtration-based plasmid DNA purification kit according to Claim 19 comprised of lysis solutions, a resuspension solution, a compaction agent-based precipitation solution, a stripping solution and optionally a final resuspension solution.

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28. A biotech kit according to Claim 19 additionally comprising filtration devices to enhance the speed and usability of the kit.

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29. A kit according to Claim 19 designed to produce as product a composition of matter comprising DNA, substantially free of added nucleases, and containing less than about 3% by weight RNA.

30. A kit according to Claim 22 designed to produce as product a composition of matter comprising RNA, substantially free of added nucleases, and containing less than about 3% by weight DNA.

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31. A kit according to Claim 19 comprising a compaction agent selected from the group consisting of: basic polypeptides, polyamines, trivalent and tetravalent metal ions.

32. A kit according to Claim 22 comprising a compaction agent selected from the group consisting of: basic polypeptides, polyamines, trivalent and tetravalent metal ions.

33. A kit according to Claim 19 comprising a compaction agent selected from the group consisting of: basic polypeptides (i.e.), polyamines (i.e. protamine, spermidine, spermine, cadaverine, etc.), trivalent and tetravalent metal ions (i.e. hexammine cobalt, chloropentammine cobalt, chromium (III)), netropsin, distamycin, lexitropans, DAPI (4', 6 diamino 2-phenylindol), berenil, pentamidine, and manganese chloride.

34. A kit according to Claim 19 comprising a compaction agent selected from the group consisting of: polylysine, protamine, spermidine, spermine, cadaverine hexammine cobalt, chloropentammine cobalt, chromium (III)),

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netropsin, distamycin, lexitropans, DAPI (4', 6 diamino 2-phenylindol and manganese chloride.

35. A kit according to Claim 19 comprising additionally comprising means for purification selected from the group consisting of: use of French cell press, addition of nonionic detergent, lysozyme addition, microfluidizer, freeze-thaw or any other relatively low ionic strength lysis technique to produce nucleic acid free lysates for later protein recovery.
36. A kit according to Claim 19 additionally comprising spinfilter, centrifugation, and/or adsorbent.
37. A kit according to Claim 19 comprising apparatus for a further separation step comprising one or more techniques selected from the group consisting of: precipitation and resuspension, filtration and adsorption for production of more pure product.